CLAIMS

1. A method for the selection by a downstream device (3a, 3b, 3c) of data packets of connections of a network transmitted by at least one upstream device (1) in relation to a predetermined threshold of the quantities of data transmitted by these connections, this method comprising
- at the start of each connection, initialisation of a transmitted packets counter by each upstream device (1) to an initial count value,
- incrementing the said counter by a specified value for each packet transmitted, defining the current count value of the packet, and copying this current count value into the packet header block by the upstream device (1),
- reception by the downstream device (3a, 3b, 3c) of each IP packet of each connection, characterised in that the method comprises:
- selecting the initial count value at the upstream device (1) from a set of predetermined initial values such that the difference between two consecutive initial values in that set is greater than the predetermined threshold, and
- comparing the predetermined threshold in the downstream device (3a, 3b, 3c) with the difference between the current count value and the immediately lower initial value in the set of predetermined initial values, as a result of which the packets corresponding to the connections which have transmitted less data than the predetermined threshold can be selected in preference to the packets corresponding to connections which have transmitted more data than the predetermined threshold.

2. A selection method according to claim 1, characterised in that when the current count value is presented in the binary

form of a recording of n bits, the set of initial count values is such that a field of l bits of the count value, l always being less than n, is systematically initialised to zero, this field being positioned in such a way that when the number of transmitted packets reaches the predetermined threshold at least one bit in this field takes the value 1.

3. A selection method according to claim 2, characterised in that if the field of l bits is positioned between a bit of rank m and a bit of rank m + 1 in the count value, the initial count values will be greater than 2^{l+m}.

4. A method of selection according to claim 3, characterised in that the predetermined threshold is equal to $2^{m}-1$.

5. A selection method according to claim 4, characterised in that the initial count values are multiples of 2^{l+m}.

6. A selection method according to claim 4, characterised in that the bits of low weight in the initial count values are selected randomly from the bits of rank below t, t always being less than m.

7. A selection method according to claim 6, characterised in that the number of bits of low weight t is the whole part of the base 2 logarithm of the maximum packet size permitted on the network.

8. A selection method according to any one of claims 2 to 7, characterised in that the comparison by the downstream device is a comparison between the field of l bits and 0.

9. A selection method according to any one of the preceding claims, characterised in that for the packets corresponding to connections having quantities of transmitted data which are less than the predetermined threshold, it comprises allocating them a processing priority which is higher than the packets corresponding to connections having quantities of transmitted data which are greater than the predetermined threshold.

10. A system for generating connection of a network data packets, in an upstream device connected to the network, comprising means (8) for the transmission of packets connected to the network, these transmission means (8) being connected to an information processing unit (9) and information storage means (10) comprising at least one register (11) capable of storing the number of transmitted packets, the information processing unit comprising means (9a) for initialising this register to an initial count value at the start of the connection and means (9b) for incrementing the contents of this register whenever a new packet is created and means (9c) for copying this register into a current count value field in the packet header block, characterised in that the initialisation means (9a) comprise means (9d) for selecting the initial count value of each connection from a set of predetermined initial values such that the difference between two consecutive initial values in that set is greater than a predetermined threshold.

11. A packet generating system according to claim 10, characterised in that if the current count value is in the binary form of a recording of n bits, the set of initial count values is such that a field of l bits of the count

value, where l is always smaller than n, is systematically initialised to 0.

12. A packet generating system according to claim 11, characterised in that the incrementing means (9b) comprise means (9f) for setting at least one bit in the field of l bits to the value of 1 when the number of packets transmitted exceeds the predetermined threshold.

13. A packet generating system according to claim 12, characterised in that if the field of l bits is positioned between a bit of rank m and a bit of rank m+l of the count value, the initial count values are greater than 2^{l+m}.

14. A packet generating system according to claim 13, characterised in that the predetermined threshold is equal to 2^{m-1}.

15. A packet generating system according to claim 13, characterised in that the initial count values are multiples of 2^{l+m}.

16. A packet generating system according to claim 14, characterised in that the means for selecting the initial count values comprise means (9e) for random selection of the low weight bits of the initial count values from the bits of rank lower than t, t always being smaller than m.

17. A packet generating system according to claim 16, characterised in that the number of low weight bits t is the whole part of the base 2 logarithm of the maximum packet size permitted on the network.

18. A system for the transmission of data packets from at least one connection of a network comprising receiving means (12) for packets originating from upstream device and packet transmission means (13) connected to information processing means (14), each packet having a current count value in its header block, characterised in that the information processing means (14) also comprise a table (15) of initial count values and means (14a) for calculating the difference between the current count value of the packet received and the initial value in the table immediately below that current count value and means (14b) for comparing this difference with a predetermined threshold.

19. A packet transmission system according to claim 18, characterised in that the means for calculating the difference and comparison with the predetermined threshold make a comparison between a field of 1 bits of the current count value and zero.

20. A transmission system according to either of claims 18 or 19, characterised in that the information processing and transmission means give priority in processing to the packets corresponding to connections having quantities of transmitted data which are less than the predetermined threshold over packets corresponding to connections having quantities of transmitted data greater than the predetermined threshold.